INSTITUTIONAL CONTROLS AND EAST HELENA

1. The U.S. Environmental Protection Agency defines institutional controls as administrative or legal provisions of a cleanup action that will:

(a) protect the integrity of a remedy over the long term; and

(b) help to minimize the potential for human exposure to residual levels of contamination.

2. Most, if not all Superfund sites in the western United States, particularly old mining, milling and smelting sites, will continue to have residual levels of pollutants or contaminants after a cleanup has been completed. Whenever residual contamination limits land uses or presents a potential for future exposure, either inside or outside of the home, institutional controls become a necessary component of any final remedy.

Several conditions are known to exist in East Helena, which cannot be eradicated by any reasonable cleanup. Regardless of the final lead-in-soil cleanup action level (i.e, 1,000 ppm, 600 ppm, or 250 ppm) the following conditions will persist and their persistence calls for long-term institutional controls:

(a) Lead-contaminated soils remain in place beneath "clean" cover soils within residential portions of East Helena. Within the Prickly Pear Creek flood plain, nearly all yard soils were removed and replaced; however, depth of removal was limited to about 18 to 22 inches. Lead contaminated soils were left in place at depths below 18 to 22 inches. Institutional controls are needed to protect against displacement of these residual soils at depth.

(b) Despite all reasonable efforts to remove and replace lead contaminated soils of all qualified yards, soils under decks and porches, sheds and garages, sidewalks, large trees, and many other examples of inaccessible areas, are generally high in lead. A general rule of thumb is that, at best, 75% to 85% of the lead contaminated soils of any single residential yard are accessible for removal and replacement. Institutional controls are needed to protect against exposures and to ensure proper handling and disposal of soils as these residual, inaccessible sources of lead are "opened up" in future years.

(c) Surface soils of approximately 2,500 to 3,000 acres of undeveloped lands surrounding East Helena have lead levels that are currently not suitable for residential use, and may or may not be suitable for recreational or commercial uses. Decades may pass before many of these areas are proposed for a change in land use. Until that time, these lands need to be managed in ways that prevent overgrazing, weed infestations or fallow. Otherwise, their soils will again become a source of wind-blown contamination into residential areas. Institutional controls, such as best management practices and oversight or enforcement, are needed for the long term. Much of the land may remain as open space or pasture, and may never be developed for another purpose.

(d) Commercial developments in and around East Helena require soil displacement, leveling, ground preparation, etc. These areas are commonly contaminated with lead above levels that are acceptable for sale or transport to other areas of the Helena Valley. There is currently no legal mechanism, or institutional control, to prevent such sales or transport out of the East Helena area.

(e) interior lead sources, such as in dust found under carpets, in heating ducts, in attics, and in earthen basements, may present a potential for exposure when remodeling or demolition is carried out. Institutional controls, such as a simple, no-cost permit system, will enable local government to advise builders and do-it-yourselfers how to open up these potential lead sources with the least risk to children and construction workers.

(f) Exterior (and possibly interior) lead-based paint of older homes may peel off and recontaminate areas previously cleaned up. Educational efforts, such as periodic reminders to homeowners to inspect their homes, followed by in-home environmental assessments conducted by health professionals (at no cost to the homeowner) have proven to be an effective institutional control.

3. Examples of institutional controls that have already proven to be highly effective for East Helena over the past 11 years, and examples of institutional controls that could be considered in light of residual contamination and conditions discussed in Item 2 above, include:

(a) permit requirements for soil disturbances, well drilling, septic system installation, excavation and transport of soil into or out of East Helena:

(b) broad-based community education, lead advisories and a continued, positive presence within the community;

(c) continuing incentive-based blood lead screenings for children under age 7 years (a vital component of the institutional controls program and one that East Helena families deem as the only certain and reliable measure of effectiveness);

(d) continuing residential environmental assessments to prevent future exposures from within the home (comprehensive, in-home tests for lead-based paint, hobbies, etc., to identify all possible sources of potential exposure or recontamination):

(e) permit requirements for interior home remodeling or reconstruction, so as to prevent lead-based paint, attic dust, insulation dust and residues, heating duct dust, dust under floors and carpets, and soil or dust from earthen basements from becoming a source of or pathway for exposures to lead; and

(f) continuing reviews, such as by the County Planning Department, to ensure that planned developments of undeveloped areas will result in proper sampling and, if deemed necessary, land preparation.

Institutional controls are best developed, administered and, when necessary, enforced by local, county or state governments. The EPA assists in developing institutional controls, and incorporates them into a final remedy; however, EPA does not administer or enforce them. Institutional controls need not be burdensome. Properly understood and administered, institutional controls protect and enhance the effectiveness of a final Superfund remedy.

This explanation of institutional controls was prepared by the Montana Office of EPA, in cooperation with the Lewis and Clark County Lead Education and Abatement Program and City of East Helena, and in consultation with the Montana Department of Environmental Quality, for use in discussions regarding the final proposed cleanup plan for East Helena (January 2007).